ACKNOWLEDGMENTS

I offer my humble salutations at the Lotus feet of our beloved Amma, Her Holiness Mata Amritanandamayi Devi, for her bountiful blessings. She gave me the strength to carry forward my research work to its completion.

I am highly indebted to my Thesis Advisor, Dr T.R. Padmanabhan, Professor Emeritus, Department of Computer Science and Engineering, Amrita School of Engineering, Coimbatore for his critical insights, valuable guidance, unstinting support and consistent encouragement throughout the work that led to this thesis. I gratefully acknowledge his enthusiastic involvement and the academic freedom enjoyed with him.

I humbly pay my gratitude to Brahmachari Abhayamrita Chaitanya, Pro Chancellor, Amrita Vishwa Vidyapeetham, Coimbatore, for his benign support during the course of my research work. To begin with, it was his encouragement which paved the way for an altogether new innings in my career.

I sincerely thank Dr. P. Venkat Rangan, Vice Chancellor, Amrita Vishwa Vidyapeetham, Coimbatore, for his inspiring motivational advice on research. He was responsible in architecting the ambience for research at Amrita.

My special thanks are due to Dr. Krishnashree Achuthan, Dean Post Graduate Programmes, for the encouragement and advice rendered to me throughout the period of my research.

I sincerely express my thanks to Dr. Sasangan Ramanathan, Dean Engineering, Amrita School of Engineering, Coimbatore, for his kind support.

My earnest thanks and gratitude to the Doctoral Committee members Dr. C. Shunmugavelayutham, Associate Professor, Department of Computer Science and Engineering, Amrita School of Engineering, Amrita Vishwa Vidyapeetham, Coimbatore and Dr. J. Ravichandran, Professor, Department of Mathematics, Amrita School of Engineering, Amrita Vishwa Vidyapeetham, Coimbatore.

I express my deep appreciation to the staff and colleagues in the CSE Department for their unstinting support and help during my work, by sharing some of my academic and administrative responsibilities.
I owe my loving thanks to my husband Seshadri and daughter Atchaya, who patiently and uncomplainingly put up with me, and bore my physical presence and mental absence at home. My special gratitude to my mother, brother, sister and their family members for their loving support. I fondly remember my late father and pay homage to him - he had always been my greatest inspiration.

N. HARINI